

What is claimed is:

1. A method for preparing a nonwoven meltblown PET-fiber-based web comprising a) extruding molten PET polymer having a temperature of about 295 degrees C or less through the orifices of a meltblowing die into a high-velocity stream of air to produce a mass of PET fibers, the stream of air having a manifold air temperature of about 260 degrees C or less and an air velocity of at least 100 meters per second sufficient to impart chain-extended crystallization to the PET fibers; and b) collecting the prepared PET fibers.
2. A method of claim 1 in which the PET fibers are prepared from resin exhibiting an intrinsic viscosity of between about 0.45 and 0.75.
3. A method of claim 1 in which the prepared PET fibers exhibit a double melting peak on a DSC plot which is representative of a first molecular portion within the fiber that comprises a non-chain-extended crystalline phase, and a second molecular portion within the fiber that comprises a chain-extended crystalline phase and melts at an elevated temperature over that of the non-chain-extended crystalline phase.
4. A method of claim 1 in which other fibers or particles are dispersed among the PET fibers before they are collected.
5. A method for preparing a nonwoven meltblown PET-fiber-based web comprising a) heating PET polymer resin having an intrinsic viscosity of between about 0.45 and 0.6 to a molten form, extruding the molten PET polymer while at a temperature of about 285 degrees C or less through the orifices of a meltblowing die into a high-velocity stream of air to thereby prepare a mass of meltblown PET fibers having an average diameter of about 20 micrometers or less, the stream of air having a temperature of less than about 270 degrees C and an air velocity of at least 100 meters per second sufficient to impart chain-extended crystallization to the PET fibers; b) collecting the prepared PET fibers as a web;

and c) passing the collected web through an oven to anneal and autogenously bond the PET fibers together at points of fiber intersection.

5           6.       A method of claim 5 in which the PET polymer has a temperature of about 275 degrees C or less when extruded through the orifices of the meltblowing die.

10           7.       A method of claim 5 in which the stream of air has an air velocity of at least 150 meters per second.

            8.       A method of claim 5 which includes the further step of introducing additional fibers into the stream of prepared PET fibers before collecting the web of fibers.

15           9.       A method of claim 8 in which the additional fibers comprise staple fibers.

20           10.      A method of claim 5 in which at least one additional polymeric material is extruded through the orifices of the meltblowing die together with the PET polymer to thereby prepare bicomponent fibers.